

## Claims

1. A process for the distillation of ionic liquids, which comprises the following steps:
  - 5 A setting a pressure which is not higher than ambient pressure,
  - B heating to a temperature in the range from 60°C to 350°C.
2. The process according to claim 1, wherein cations, anions and uncharged molecules which are formed, in particular, by protonation or alkylation of the anions by the cations are present in equilibrium in the ionic liquid.  
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3. The process according to claim 1 or 2, wherein at least the more volatile of the uncharged molecules is distilled off in the distillation.
- 15 4. The process according to any of claims 1 to 3, wherein the pressure is < 200 mbar.
5. The process according to any of claims 1 to 4, wherein the pressure is < 50 mbar.  
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6. The process according to any of claims 1 to 5, wherein the pressure is < 5 mbar.
7. The process according to any of claims 1 to 6, wherein the temperature is in the range from 100°C to 350°C.  
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8. The process according to any of claims 1 to 7, wherein the temperature is in the range from 150 to 350°C.
9. The process according to any of claims 1 to 8, wherein both uncharged molecules are separated off by distillation.  
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10. The process according to any of claims 1 to 9, wherein the uncharged molecules which have been distilled off are recombined again to form an ionic liquid.
- 35 11. The process according to any of claims 1 to 8, wherein either of the two uncharged molecules which have been separated off by distillation is utilized again to prepare a different type of ionic liquid or only the more volatile uncharged molecule is utilized for this purpose.
- 40 12. The use of the process according to any of claims 1 to 11 for the purification of ionic liquids.

13. The use of the process according to any of claims 1 to 11 for the recirculation of ionic liquids.